

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>RJB/P470006WO</b>	<b>FOR FURTHER ACTION</b> <small>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</small>	
International application No. <b>PCT/GB2004/000042</b>	International filing date (day/month/year) <b>08/01/2004</b>	(Earliest) Priority Date (day/month/year) <b>09/01/2003</b>
Applicant  <b>TOROTRAK (DEVELOPMENT) LTD</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regards to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 3

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☐ none of the figures is to be published with the abstract.

# INTERNATIONAL SEARCH REPORT

International application No.

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Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

A continuously variable transmission is disclosed comprising a transmission input and output between which a variator (V) can be coupled, in either a low regime or a high regime, by gearing (R1,R2,R3,M). The relationship between variator ratio and overall transmission ratio is different in the two regimes. Incorporated in the gearing are first and second clutch means (L,H) both hydraulically actuated, for engaging and disengaging low and high regimes respectively. The gearing provides a synchronous ratio at which a change between low and high regimes, at constant variator ratio, provides no change in the overall transmission ratio. The transmission is provided with hydraulics which incorporate a shift valve (110) which controls application of hydraulic pressures to the first and second clutch means. A change in state of the shift valve (110) causes one clutch means to change from engaged to disengaged and the other to make the opposite transition. In this way changes of transmission regime are hydraulically controlled.

International Application No

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## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F16H61/00 F16H37/08

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F16H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 669 846 A (HATTORI MASASHI ET AL) 23 September 1997 (1997-09-23) column 8, line 57 -column 11, line 25 column 13, line 12 -column 14, line 51 column 15, line 57 -column 16, line 65 column 17, line 25 -column 18, line 20 figures 1-6,9-11,14,15	1-7,14
A	---	8
X	US 2002/086764 A1 (OOYAMA KAZUO) 4 July 2002 (2002-07-04) paragraph '0061! - paragraph '0069! figures 1,8,9 --- -/-	1-3,14

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&amp;\* document member of the same patent family

Date of the actual completion of the international search

13 April 2004

Date of mailing of the international search report

18 MAY 2004

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/094904 A1 (KURAMOTO HIROAKI ET AL) 18 July 2002 (2002-07-18) paragraphs '0034!', '0042!', '0101!', '0102! paragraph '0114! - paragraph '0126! figures 1, 11-13 -----	1-3, 14

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP2004/000042

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5669846	A	23-09-1997	JP 8261303 A	11-10-1996
			JP 3498423 B2	16-02-2004
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